

Appendix table 4-41.

**International nondefense R&D expenditures and nondefense R&D as a percentage of GDP by selected country: 1981-99**

| Year  | United States | Japan <sup>a</sup> | Germany <sup>b</sup> | France | United Kingdom | Italy | Canada |
|---|---------------|--------------------|----------------------|--------|----------------|-------|--------|
| <b>Total nondefense expenditures (billions of constant 1996 U.S. dollars<sup>c</sup>)</b> |               |                    |                      |        |                |       |        |
| 1981 .....  | 85            | 36                 | 24                   | 15     | 14             | 7     | 5      |
| 1982 .....  | 89            | 39                 | 25                   | 15     | NA             | 8     | 6      |
| 1983 .....  | 92            | 42                 | 26                   | 16     | 14             | 8     | 6      |
| 1984 .....  | 99            | 46                 | 27                   | 17     | NA             | 9     | 6      |
| 1985 .....  | 109           | 51                 | 29                   | 18     | 16             | 10    | 7      |
| 1986 .....  | 112           | 51                 | 30                   | 18     | 16             | 10    | 7      |
| 1987 .....  | 110           | 56                 | 31                   | 18     | 17             | 12    | 8      |
| 1988 .....  | 115           | 59                 | 33                   | 19     | 18             | 12    | 7      |
| 1989 .....  | 125           | 65                 | 34                   | 21     | 18             | 12    | 8      |
| 1990 .....  | 134           | 71                 | 35                   | 22     | 18             | 14    | 8      |
| 1991 .....  | 140           | 74                 | 38                   | 22     | 17             | 13    | 9      |
| 1992 .....  | 144           | 74                 | 38                   | 24     | 18             | 14    | 9      |
| 1993 .....  | 142           | 74                 | 38                   | 23     | 19             | 12    | 10     |
| 1994 .....  | 139           | 72                 | 38                   | 24     | 20             | 11    | 10     |
| 1995 .....  | 151           | 78                 | 39                   | 25     | 19             | 12    | 11     |
| 1996 .....  | 164           | 85                 | 39                   | 24     | 19             | 12    | 11     |
| 1997 .....  | 172           | 85                 | 39                   | 24     | 19             | 12    | 11     |
| 1998 .....  | 187           | 89                 | 40                   | 25     | 20             | 12    | 12     |
| 1999 .....  | 195           | NA                 | 43                   | NA     | NA             | NA    | NA     |
| <b>Nondefense R&amp;D expenditures as percentage of GDP</b>                               |               |                    |                      |        |                |       |        |
| 1981 .....  | 1.7           | 2.1                | 2.3                  | 1.6    | 1.8            | 0.9   | 1.2    |
| 1982 .....  | 1.8           | 2.2                | 2.5                  | 1.6    | NA             | 0.9   | 1.3    |
| 1983 .....  | 1.8           | 2.3                | 2.5                  | 1.7    | 1.7            | 0.9   | 1.3    |
| 1984 .....  | 1.8           | 2.4                | 2.5                  | 1.8    | NA             | 1.0   | 1.3    |
| 1985 .....  | 1.9           | 2.6                | 2.6                  | 1.8    | 1.8            | 1.1   | 1.4    |
| 1986 .....  | 1.9           | 2.5                | 2.6                  | 1.8    | 1.8            | 1.1   | 1.4    |
| 1987 .....  | 1.8           | 2.6                | 2.7                  | 1.8    | 1.8            | 1.2   | 1.4    |
| 1988 .....  | 1.8           | 2.6                | 2.7                  | 1.8    | 1.8            | 1.2   | 1.3    |
| 1989 .....  | 1.9           | 2.7                | 2.7                  | 1.9    | 1.7            | 1.2   | 1.3    |
| 1990 .....  | 2.0           | 2.8                | 2.6                  | 1.9    | 1.7            | 1.3   | 1.4    |
| 1991 .....  | 2.1           | 2.8                | 2.4                  | 1.9    | 1.7            | 1.2   | 1.5    |
| 1992 .....  | 2.1           | 2.7                | 2.3                  | 2.0    | 1.7            | 1.2   | 1.5    |
| 1993 .....  | 2.0           | 2.7                | 2.3                  | 2.0    | 1.8            | 1.1   | 1.6    |
| 1994 .....  | 1.9           | 2.6                | 2.2                  | 2.0    | 1.8            | 1.0   | 1.6    |
| 1995 .....  | 2.0           | 2.7                | 2.2                  | 2.0    | 1.7            | 1.0   | 1.6    |
| 1996 .....  | 2.1           | 2.8                | 2.2                  | 2.0    | 1.6            | 1.0   | 1.6    |
| 1997 .....  | 2.1           | 2.8                | 2.2                  | 2.0    | 1.6            | 1.0   | 1.6    |
| 1998 .....  | 2.2           | 3.0                | 2.2                  | 2.0    | 1.6            | 1.0   | 1.6    |
| 1999 .....  | 2.2           | NA                 | 2.3                  | NA     | NA             | NA    | NA     |

GDP = gross domestic product; NA = not available

<sup>a</sup>Data on Japanese R&D in 1996 and later years may not be consistent with data in earlier year because of changes in methodology.<sup>b</sup>Data for 1981–90 are for West Germany.

<sup>c</sup>Nondefense R&D data are estimates. Nondefense R&D/GDP ratios are obtained directly from Organisation for Economic Co-operation and Development (OECD) reports or, for the following countries and years, are estimated by National Science Foundation from OECD data: United States for all years; Japan for 1995 and later years; Germany for 1990 and earlier years; United Kingdom for 1988 and earlier years; Italy for 1986 and earlier years; and Canada for 1990 and later years. Conversions of foreign currencies to U.S. dollars are calculated with OECD purchasing power parity exchange rates. Constant 1996 dollars are based on the U.S. GDP implicit price deflator.

NOTE: The nondefense R&amp;D/GDP ratio for Russian Federation was 1.2 in 1990, 0.6 in 1994, and 0.7 in 1998.

SOURCES: Organisation for Economic Co-operation and Development (OECD), Main Science and Technology Indicators data base (Paris, November 2000); Russian Centre for Science Research and Statistics; and National Science Foundation, Division of Science Resources Statistics (NSF/SRS).